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67.13

FORAGE FOR RANGE AND RANCH

Bulletin 100

Devoted to the Interest of Cattlemen,
Dairymen and all Live Stock Growers

AGGELER & MUSSER SEED CO.

620 South Spring Street

Los Angeles, Calif.

MR. CATTLEMAN, READ THIS

Thryx is so far only a ranger in the Southwest who has not at some time been greatly beneventured and endured much loss from lack of feed following a season of light rainfall.

These periodical losses we believe can be reduced to a minimum by co-operation on the part of cattlemen working together to improve the range by a systematic elimination

the undesirable vegetation, encouraging that which is good and introducing new vegetation by planting seeds of species that are known to thrive under similar conditions in other parts of the country and from other parts of the

For the first time in the state of Texas, A. L. Zoller & Musser Seed Company is making a selection and adaptation, given to the farmer, of the best class of populations produced anywhere in the world, for any cost of lifting, such as the upbuilding of his stock, crops.

The latest organized effort to do of a substantial benefit to the Oregon Southwestern is to assist the stockmen to find some valuable native plants that will endure each and every winter. That exists on the vast ranges of the desert and mountains, that the land be covered with grasses that will sustain thousands of stock.

There have been a great many examples of the enormous amount of resources that passed unnoticed or, if noticed, little noticed, from the world.

On the other hand, if waste exists in the barren condition (Fig. 1), the following conditions are obligated: (a) hill sides, (b) steep slopes, (c) valleys, and (d) other conditions.



Japanese Sugar Cane. A permanent source of forage when established. See page 28.



ACCEPTED MANUSCRIPT

MR. DAIRYMAN AND STOCKMAN,
READ, THIS

We have given much attention to your people's needs, and we are sure you will find in this bulletin something of value to your purpose. We also invite you to send your contribution referred to on the preceding page.

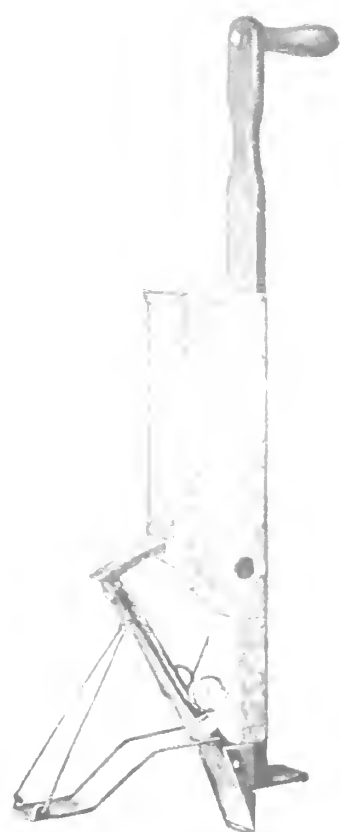
POULTRYMEN

To the small stock breeder and poultryman, you will find in this bulletin just as much of interest to you as to the large breeder. Read it carefully.

HOW TO PLANT SMALL GRASS SEED

GETTING A STAND BY THE CORRUGATED SYSTEM

Mr. Stockman:



Segment Planter. A good thing to plant grass seeds in rough places.

THE SMALL RANGE

These are the small range hills. To these we say get some of the like the illustration. It can be operated as a walking cane. Use it to push the seed into the ground. It will be safe from insects and moss, and where the seed is planted, take root and grow. Then when a rabbit or other pest would eat the foliage, the grass, being beneath the surface and well rooted, is protected and will quickly grow again.

This precaution may seem impractical and unwarranted, but can you expect valuable grasses to grow with less attention than would be given other crops?



NIGHTHAWK AS A WOOD PECKER

NAPIER

1° - il mi sembra l'ho già incontrato

NAPIER (Continued)

For frequent cutting, we advise planting twelve inches apart each way; thus one plant to each square foot will quickly fill the space solidly with succulent green feed that may be pastured or cut frequently for hay or green feed for chickens, rabbits or goats.

The grass is also said to possess drought resistant qualities to a marked degree, but it will thrive best where soil moisture is not lacking.

In a discussion of this grass as noted in a story of interest in Tropical Africa the author says:

It occurs in dry, watercourses, and in marshy depressions, but also grows in the open under good pasture conditions and sufficient light. In rich marshy land it attains a height of 2 1/2 feet, and in drier soils it grows about 1 1/2 feet high.

During the rainy season Napier grass grows very luxuriantly.

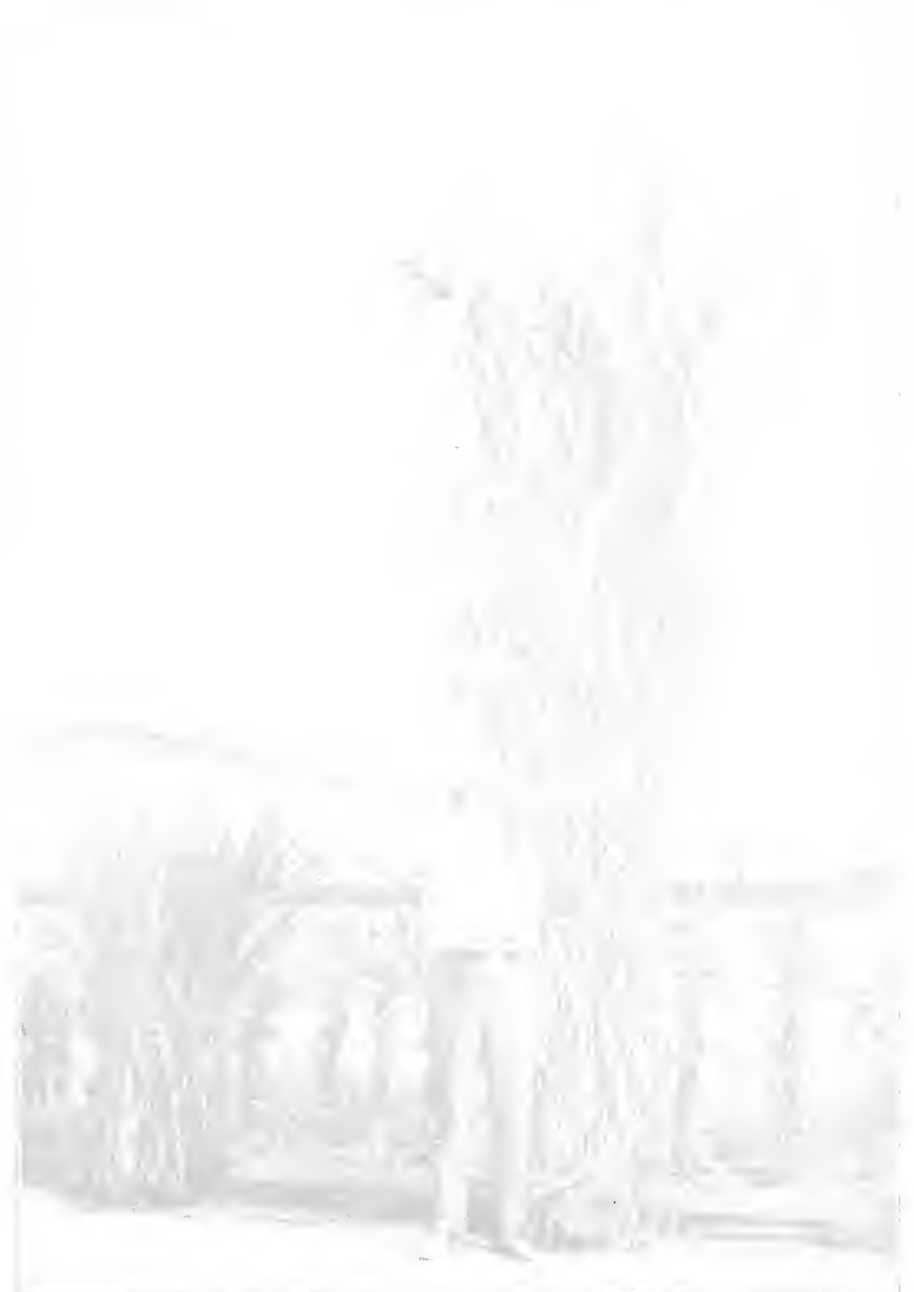
For several years the Napier grass has been introduced into the United States for the purpose of growing it for stock feed. It is a very hardy plant, and is said to be very resistant to drought. It is also very palatable to stock, and is said to be very nutritious. It is a very fast growing plant, and is said to be very easy to grow. It is a very hardy plant, and is said to be very resistant to drought. It is also very palatable to stock, and is said to be very nutritious. It is a very fast growing plant, and is said to be very easy to grow.

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Guinea

Napier

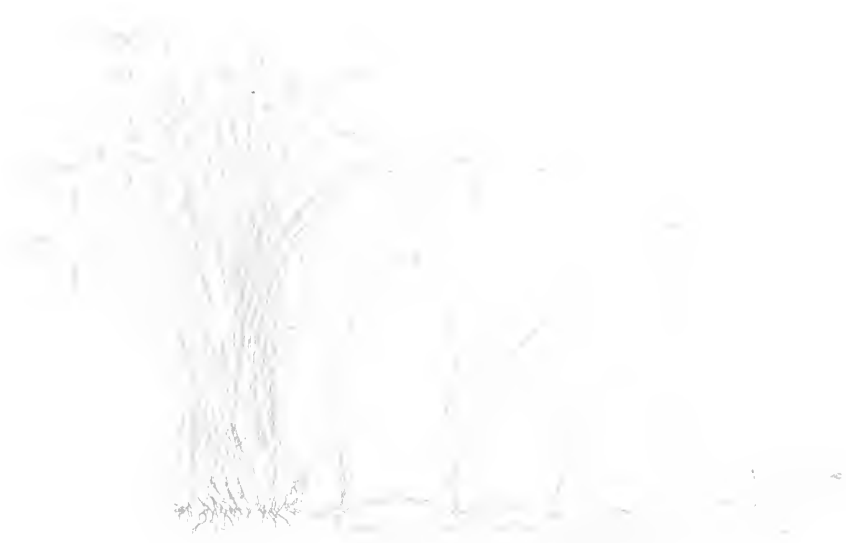
Just Five Months' Growth From Dormant Joint

GUINEA GRASS



RHODES GRASS

WATERBURY, H. C. & W. H. WATSON. 1900. 1000 - 1000.



Was discovered in South Africa by Cecil Rhodes in 1893 and developed by him on his farm from a few handfuls of seed he found wild. It was taken to New Zealand and Australia and is responsible for the development of the sheep industry there. It was named in honor of Mr. Rhodes. About 12 years ago it was brought to Florida where it became known as the East Coast Grass, and where it made records of wonderful growth.

For first-hand information we are indebted to Mr. O. J. Renthrow, who, with Mr. W. H. Butty, have 320 acres of Rhodes Grass growing at Niland, Cal. The soil is heavy and soft, on this and borders on the Salton Sea. They are cutting it six times a year and two tons per cutting.

After two years' experience with Rhodes Grass, Mr. Renthrow says of it: "It is a plant which thrives well in warm climates. It is perennial below temperature above 18 degrees and thrives at 125 degrees. It stands drouth remarkably and will endure much neglect and pasturing. It does not scald in hot weather from excessive moisture like alfalfa. It is highest in protein of any grass tried. Stock like it and will not show heat."

Rhodes Grass will drive out locoweed and other weeds because of its dense growth. It is easily cultivated by being plowed once and let stand for sixty or ninety days. It adds humus to the soil.

The best time to plant Rhodes Grass is from March 1st to September 1st.

The soil must be well prepared by thorough pulverizing, then cultivated (see page 40). Broadcast 14 pounds of seed per acre, going over the field twice once north and south and east and west sowing 7 pounds each way. Keep the soil continually moistened until the grass is established. It grows so rapidly that the first cutting may be had the sixth week. Do not pasture until after the second cutting.

Price per lb. \$1.00 postpaid. Write for quantity price.

Another year of experience with Rhodes Grass has added much to its popularity. It might be claiming too much to say that for a permanent pasture field it excels alfalfa, but it is no exaggeration to say it has a wider usefulness, because it will thrive on soil too alkaline for alfalfa. It will endure more drouth, more pasturing, more neglect, and will support as many head of stock per acre.

The following extract is from the U. S. Department of Agriculture Bulletin 1948:

Rhodes Grass was first cultivated because of its pasture value. It bears trampling well, recovers quickly after it is eaten down, and is relished by all kinds of live stock. In pastures favorably located, Rhodes Grass will support about two steers to the acre for 9 to 10 months and double that number during the more favorable parts of the year. The quality of hay made from Rhodes Grass is superior to that of most other grasses in that it contains a larger proportion of leaves, while the stems are slender, tender, and sweet, so that the hay is eaten with very little waste. It retains its color well in drying, therefore making an attractive bale for market.

Mr. McArthur of this city planted twenty acres near Holtville in Imperial Valley, on soil that was white with alkali. He is very enthusiastic concerning it. He says it is the most valuable grass that has ever come to Southern California. There is no longer any excuse for waste places; every acre of alkali soil may now be converted into valuable grazing land.

The following was copied from the Orchard & Farm, contributed by Dr. P. B. Kennedy (Grass and Forage Plant Investigation), University of California:

"Rhodes Grass hay is sweet and tender, and well liked by all classes of stock. It has an attractive appearance and lends itself admirably to baling for market. One to two tons per acre would be considered a poor yield, and might be expected on poor soils with insufficient irrigation, while on good soils with ample irrigation and a long season, eight tons per acre may be reasonably expected. The grass grows very rapidly during the warm summer, thirty days being sufficient to produce a cutting, but as the season advances and the mean temperature becomes lower, the growth becomes less rapid.

PASTURE PLANT

"Perhaps the best way to utilize Rhodes Grass is to make two cuttings of hay and then pasture for the remainder of the season. Continuous grazing is not to be recommended although the plant withstands pasturing well. We have not as yet determined the carrying capacity of Rhodes Grass for California conditions, but the reports from other states are really remarkable. A very conservative estimate would be three cows per acre for eight months.

"Since California must from now on produce more food in order to satisfy cultivation, we believe this will become one of the most important crops of the future."

"It is a very hardy plant, and grows in all parts of the world. It is a very hardy plant, and grows in all parts of the world. It is a very hardy plant, and grows in all parts of the world."

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Just Six Months' Growth from One Joint

3.50 lb
postpaid

Plants
H. v. per 100
F. O. B.



Pluchea Siamensis.

The plant is about 10 feet high at the first fall season. The leaves are large and are very green. It grows in the first season. It is very good for hay and for the first season. The flower- ing season is only about 10 days. In the second season, a dense leafy growth is produced with the flower-bearing branches depending on the rainfall.

1. The first of the following is a list of the names of the persons who have been appointed to the various committees of the Board of Directors of the California State Board of Agriculture, for the year 1901.

2. The second of the following is a list of the names of the persons who have been appointed to the various committees of the Board of Directors of the California State Board of Agriculture, for the year 1901.

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10. The tenth of the following is a list of the names of the persons who have been appointed to the various committees of the Board of Directors of the California State Board of Agriculture, for the year 1901.

AUSTRALIAN SALTBUSH

(*Atriplex semibaccata*)



Australian Saltbush Growing by the Roadside

One plant growing on a roadside on clay soil getting no moisture other than the season's rainfall.

Cardinal points: For range near the coast on interior low lands where fogs are of frequent occurrence—any kind of soil—endures much alkali—thrives with a minimum of moisture—very succulent during winter, spring and early summer, when it is relished by all stock—becomes parched by heat in late summer, then it is less palatable to stock, but they will thrive if forced by hunger to eat it—it seeds freely. Requires no preparation of soil for seeding. Cannot cut and dry as hay—has one tap root—easily eradicated.

Per lb. \$1.00 postpaid. Write for quantity price.

The best way to get a stand of Saltbush is to sow broadcast the seed during the months of January and February. Five pounds of seed will sow one acre broadcast.

Saltbush has made a new record which establishes a value. Heretofore, this has not been appreciated, although for years we have tried to make plain that its principal use was for sheep and goat pasture.

Mr. Maurer, who has large interests in the San Clemente Islands, and maintains large herds of sheep and goats, states that were it not for the several hundred pounds of Saltbush he purchased from us several years ago he would, undoubtedly, have lost his herd. If you have any waste land, sow Saltbush; it may be depended upon when all else fails.

Had the owners of Guadaloupe wisely sown Saltbush seed over their island several years ago they would not have found it necessary to ship their herds to the mainland, entailing much expense and inevitable loss of animals.

Fire may devastate the range and destroy all dry forage in its path, but the Saltbush being perpetually green is absolutely uninjured by fire.

COCKSFOOT

(Orchard) *S. glomerata*) also called Orchard Grass

\$6.00 each—paid. Write for quantity price.

RUSSIAN BROME GRASS

(Bromus inermis)

\$2000.00 + 10% 7.50% postpaid.

It is a grass is extremely common, a grass, but it is not a good one. All kinds of stock are fond of it, but it is not a good one. It is a grass will furnish a good deal of food for the cattle. Its producing power is about equal to that of Timothy. It is a grass that would destroy many of the other grasses. It will grow vigorously when moist and warm. It can be made to render excellent food for the cattle where the rainfall is not more than 12 to 15 inches.

BERMUDA GRASS

Cynodon dactylon

Bermuda grass is a perennial grass with a creeping habit. It is a very hardy plant and is found in all parts of the world. It is a very common grass and is found in all parts of the world. It is a very common grass and is found in all parts of the world. It is a very common grass and is found in all parts of the world.

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Strictly speaking, Bermuda grass is not a rotating plant. Because of the difficulty of finding a seedling, it is not a rotating plant. Because of the difficulty of finding a seedling, it is not a rotating plant. Because of the difficulty of finding a seedling, it is not a rotating plant.

When land is to be put down to Bermuda grass, the cleaner it is, and the better its condition, the sooner will a stand of the grass be secured and the greater will be the returns from it.

The seed is not only low in germinating power, but the young plants from the seed grow so slowly that they are much liable to injury from the covering of weeds and to be well cared for.

A pound of seed should sow on about one acre of land. The method of sowing the seed should be such as to secure the best possible result.

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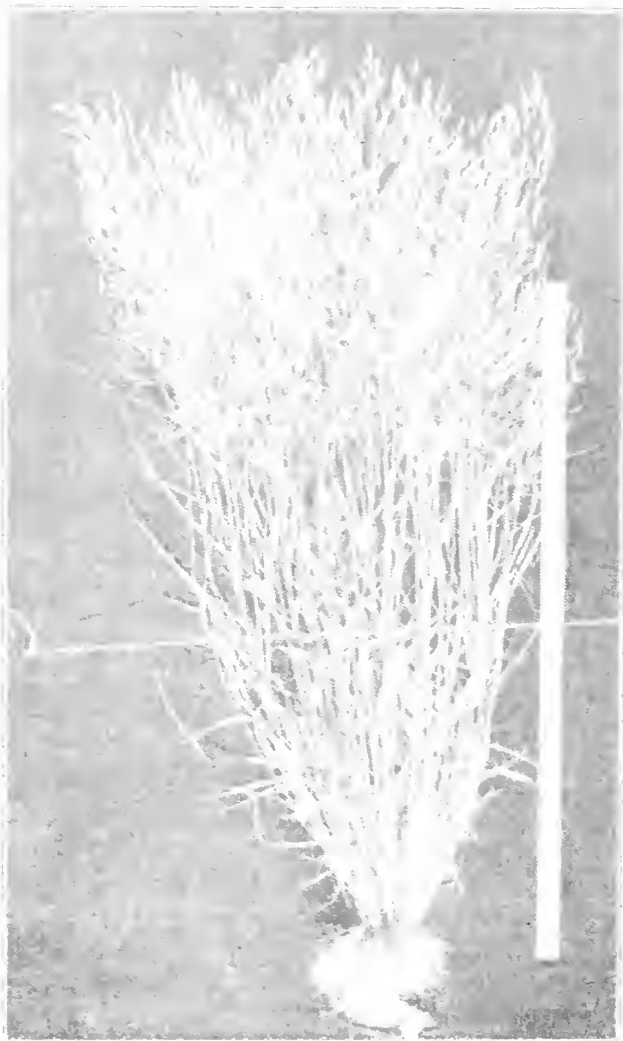
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Per lb. \$1.00 postpaid. Write for quantity price

SMILO GRASS

(Oryzopsis, Milineae) Many-flowered Millet

plants 75¢ per 100 postpaid; \$4.00 per 100 f.o.b. here.



Pyro bears 120 a brush fire got started on our hills. Before the rainy season started we sowed several pounds of Smilo seed broadcast over the burnt stumps. As it did not rain for several weeks we feared the birds would get all the seed. Consequently, on this hill land, that for ages has produced nothing but brush and wild animals, we pastured several head of horses all summer. The last week I rented it for a nice sum to Burt Erwin, lessee of the 9000-acre old Spreckels ranch, who has 35 head of his work horses and mules in my pasture.

G. D. STEAD, San Diego County.

PASPALUM DILATATUM



Common Hardy Paspalum

For more information on this and other grasses, please write to the nearest branch of the National Grass Seed Company, Inc., 1000 North 1st Street, St. Paul, Minnesota. We will be glad to send you a free copy of our "Grass Seed Catalog" which contains a complete list of the grasses we have for sale, and a full description of each. We also have a "Grass Seed Handbook" which contains a full description of the grasses and a full list of the seed companies in the United States. Both of these books are free of charge. Write for your copy today.

Per lb. 75c postpaid. Write for quantities and prices.

RED TOP

(*Agrostis vulgaris*)

Red top is a perennial grass which grows from a few inches to a foot high. It is adapted to growing conditions of the temperate zone. It is probably 18 to 20 years old when it is first introduced. It is a very reliable grass for stock, and it is a very good hay crop. It is a very good pasture grass, and it is a very good hay crop. It is a very good pasture grass, and it is a very good hay crop.

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Price per lb. 15¢ postpaid. For 100 lbs. 35¢ f.o.b. here.

PERENNIAL RYE GRASS

(*Lolium perenne*)

Perennial rye grass is a perennial grass which grows from a few inches to a foot high. It is adapted to growing conditions of the temperate zone. It is probably 18 to 20 years old when it is first introduced. It is a very reliable grass for stock, and it is a very good hay crop. It is a very good pasture grass, and it is a very good hay crop.

Per lb. 50¢ postpaid.

ITALIAN RYE GRASS

(*Lolium italicum*)

Italian rye grass is a perennial grass which grows from a few inches to a foot high. It is adapted to growing conditions of the temperate zone. It is probably 18 to 20 years old when it is first introduced. It is a very reliable grass for stock, and it is a very good hay crop. It is a very good pasture grass, and it is a very good hay crop.

BARLEY AS A WINTER PASTURE

Several other plants furnish good winter pasture, but none so valuable as Barley. It affords grazing earlier, more abundantly. It recovers more rapidly after being grazed down. It is more relished by stock and more wholesome. It stands up so that stock can eat it with less dirt or other objectionable matter, and it is never affected by rust.

Sown in September it affords good grazing until May, but if the stock are taken off in March, a good crop of grain may be harvested.

For this purpose sow 100 pounds per acre and irrigate if needed.

Barley sown in an alfalfa field during October will make good pasture during the winter when alfalfa is dormant, or it may be grown for hay without injury to the alfalfa.

In answer to the many inquiries received as to when, where and how to sow sweet clover, or melilotus, the following will prove successful in this region:

When to Sow.—The best results are obtained by sowing in early spring as soon as the ground is dry and warm enough to put in condition for a good shallow seed-bed—this latitude April 1 to 15, before spring rains. In the South where the rainfall is copious in winter, fall plowing will be better.

Where to Sow.—Any place on the farm, especially on the poor, worn-out spots, fence rows, ditches. It prevents erosion.

How to Sow.—Preferably in a fine shallow seed-bed on a firm sub-soil. If sown before a rain it needs no harrowing. Always cover very lightly, as deep seeding is unsuccessful. On stubble, or any ground cropped the preceding year, by disking and harrowing, putting the top two inches of soil in fine condition, is suitable for sowing. Always cover seed shallow. Without nurse crop preferred.

General Remarks.—With a favorable season and good stand it can be pastured without injury to the plant in about 10 weeks. The first season, pasture or cut crop of hay; the second season, pasture, hay or seed. It is most valuable as continuous pasture, when it will reseed itself without thought or care of the grower.

It will never bloat stock, horses, cattle, sheep or hogs turned out at any time, even in rain or dew. A good season will pasture 20 head of hogs to the acre. Rind the new. The bitter taste of sweet clover is caused by the presence of coumarin, which prevents bloating. It does not affect flavor of milk. Sweet clover seed is thoroughly inoculated for alfalfa, as it is the same both plants in the seed. Sow 12 to 15 pounds per acre.

A Few Don'ts

Don't plow deep.

Don't sow deep.

Don't cut low in mowing—keep at least 4 inches high.

Don't have subsoil loos-

Don't be afraid to sow sweet clover.

Melilotus Alba for the Range

Mr. Stockman, as soon as you read this send for some seed of this Sweet Clover and just to get a start sow at the rate of one pound per acre all over your range. On any kind of soil. If not pastured too closely you will soon have a valuable range for your stock.

The same advice applies also to Smilo.

Sow also Burr Clover on heavy soil and Alfalfa on any kind of soil.

BURR CLOVER

Like Alfalfa is native to the southwest and thrives best on adobe soil, enduring considerable alkali. It starts growing as soon as the fall rains set in and with a minimum of rainfall such as we have in "dry years" it grows luxuriantly, bearing enormously of seed pods. When mature the whole plant dries, forming a mat of good cured forage relished by all stock. **Per lb. 40c postpaid.**



Fig. 1.

Fig. 2. Sorghum (Sorghum).

SORGHUM SORGHUM

(Sorghum, Sorghum)

Fig. 3.

The sorghum (Sorghum) is a very important crop in the tropics and subtropics. It is a member of the grass family (Gramineae) and is one of the most important food crops in the world. It is also used for animal feed and for the production of ethanol. The sorghum is a very hardy plant and can grow in a wide range of soil conditions. It is also a very drought-tolerant plant and can survive in areas with very little rainfall. The sorghum is a very important crop in the tropics and subtropics because it is a very hardy plant and can grow in a wide range of soil conditions. It is also a very drought-tolerant plant and can survive in areas with very little rainfall.

The best dairymen feed about forty pounds of ensilage with two pounds each of bran and oil meal daily to each cow in order to secure the maximum milk production.

SUDAN

Supplies of Agriculture, Botany, etc. for Bulletin
No. 27



SUGAR CANE



JAPANESE SUGAR CANE

This is a most excellent source of sweet
cane juice and is a most important source
of sugar. It is a most important source of plant-
products and is a most important source of plant-
products.

Price of Joints, Per Dozen, \$1.00 Postpaid

100 Joints, \$6.00 Postpaid



BRANCHING CORN

The largest corn stalk you ever saw. Two ears on main stem and five branches with one ear on each branch.

AGGELER & MUSSER SEED CO.

FARMERS BULLETIN NO.

FORAGE FOR RANGE AND RANCH



Wheat
Barley
Oats
Rye

Alfalfa
Clover
Soybeans
Cottonseed

1. Alfalfa
2. Australian Ryegrass
3. Red Top Grass